Rhodora

JOURNAL OF

THE NEW ENGLAND BOTANICAL CLUB

Vol. 18. September, 1916. No. 213.

THE OLD STUMPS AT BLANC SABLON.[1]

CHARLES W. TOWNSEND, M.D.

PROFESSOR M. L. FERNALD, who, in 1910, made at this point [Blanc Sablon] a brief incursion into Labrador has most interestingly described the region in the pages of RHODORA.[2] "Here" he says "was an ideal place to study the vegetation of a highly calcareous region side by side with the plants of a silicious and gneissoid area, and if anyone doubts the dissimilarities of these floras he can find no better spot in which to undeceive himself than at Blanc Sablon."

Like him I was struck by the flat grassy plains on the tops of the terraces, so different from the rounded and irregular surfaces of the granitic rocks with their wealth of mosses and lichens and their comparative paucity of grasses. Prof. Fernald says "The *commonest flower* of the Laurentian plains is *Carex rariflora*, though with singular regard for its specific name it is by all means the rarest of its genus in New England." But the most surprising feature which is described and figured by Prof. Fernald is the presence of stumps of forest trees, and with them a forest vegetation still lingering in the plains now fully exposed to the sun. Dwarf cornell, snow berry, Linnaea, star flower, clintonia, one-flowered pyrola and dwarf solomon seal were most in evidence, and Professor Fernald mentions also such typical forest species as red baneberry, Dewey's sedge, great-spurred violet, miterwort and sweet-scented bedstraw.

I measured several of the stumps that were a foot or two high with

[1] Read by invitation at a meeting of the New England Botanical Club, May 5, 1916. Extract from Chapter XII of "In Audubon's Labrador."

[2] "A Botanical Expedition to Newfoundland and Southern Labrador." M. L. Fernald, RHODORA, xiii, 109–162 (1911).

great sprawling roots, now destitute of bark and blanched by the sun and storm, but yet fully a foot in diameter or three feet in circumference. Sometimes a prostrate trunk three or four feet long would be seen. One pictures an ancient forest, very different from the grassy plains with occasional clumps of dwarfed and stunted spruces and fir bushes that are here now.

Professor Fernald was much interested in these stumps. He says: "In such accounts as I have found (except possibly Cartier's) the coasts of the Straits of Belle Isle are described as desolate and bare, and even Cartier, in 1534, entering the Straits and anchoring at Blanc Sablon, was so impressed with the barrenness that he wrote: 'If the land was as good as the harbors there are, it would be an advantage; but it should not be named the New Land but [a land of] stones and rocks frightful and ill shaped, for in all the said north coast I did not see a cart-load of earth, though I landed in many places. Except at Blanc Sablon there is nothing but moss and small stunted woods; in short I deem rather than otherwise, that it is the land that God gave to Cain;'[1] and again on his second voyage in 1535, he wrote: 'The whole of the said coast from the Castles as far as here [note, by Prof. Fernald, "From Chateau Bay as far as Brest, west of Blanc Sablon"] bears east-northeast and west-southwest, ranged with numerous islands and lands all hacked and stony, without any soil or woods, save in some valleys'.[2] And at the present time the people at Blanc Sablon insist that there has never been any forest there and that no timber exists within four or five miles of the Straits. Yet, the first day I saw upon the terraces east of Blanc Sablon such plants as have just been enumerated I was convinced that a forest must have been there, since these are so distinctly woodland species and so decidedly not plants typical of the Arctic barrens and tundra. So my delight can be imagined when, crossing with Kidder the tableland east of Blanc Sablon, we came upon buried logs in the bog and soon after found numerous stumps protruding from the moss. Some of the stumps, now much crumbled, were still a foot or more in diameter and indicated an ancient forest of considerable size. Just when this forest lived it is difficult to say, but if it still throve in the 16th century Cartier did not give a very clear indication of it. Only by such indefinite expressions as 'except at Blanc Sablon there is nothing but moss and stunted woods' and 'without any soil or woods, save in the

[1] J. P. Baxter, Memoir of Jacques Cartier, 86 (1906).
[2] J. P. Baxter, l. c. 130.

valleys' did he indicate a possible forest covering. But here at least was a remnant of the forest which had once sheltered *Carex Deweyana, Actaea rubra* and *Viola Selkirkii,* though at the present time only shrubs or dwarf straggling trees, as described by Cartier, thrive on the bleak and wind-swept shores of the Straits of Belle Isle; and that the forest was an extensive one and presumably once fringed the entire length of the Straits we are safe in assuming from the presence at Bonne Espérance L'Anse au Clair, Forteau, Red Bay, and Chateau (as shown by the collections of John A. Allen and others) of a relic forest vegetation (sometimes further augmented by *Onoclea sensibilis, Osmorhiza obtusa, Pyrola secunda,* etc.) such as abounds on the terraces of Blanc Sablon."

The name of the island near at hand "Isle au Bois" hints at the former presence of a forest, yet if forests existed in Cartier's time we should expect a different account from him. Our knowledge of the history of the Labrador Peninsula since the glaciers melted a few thousand years ago would negative the possibility of a climate or topography that could support a forest such as these stumps and woodland plants suggest. Moreover the stumps themselves can hardly date back to Cartier who found "the land that God gave to Cain."

How can we explain the seeming paradox? Like many things in nature, the explanation, which I chanced upon in a walk over the plains to Anse Éclair, is very simple. The answer is there has been no change; here are forest conditions at the present day, and here are plenty of forest trees right before our eyes. Where the ancient white stumps are so prominent the forest has been cut away as is apt to be the case near settlements, but farther away to the east and west along the coast there are regions where forest conditions of darkness, dampness and quiet reign as truly as in the forest aisles where the trees rear their heads to the skies and wave and sough in the winds. The forest vegetation is the same in both cases.

One is at first disposed to deny these statements and say there are no trees here, merely spruce and fir bushes, insignificant things with flat tops clipped as it were by the arctic blasts, but a close examination reveals the forest conditions. This examination is extremely difficult unless one is provided with an axe, or, better still finds a place where wood cutting has recently taken place, and the actual habits of the wood-cutter can be learned. This gives the key to the situation and at once explains the existence of the ancient stumps.

From a study of a number of partial clearings in various places about Blanc Sablon I found that the wood-cutter often chooses a spruce or fir bush with a large central trunk, first cuts off the branches, and then the whole top of the trunk, leaving a stump exactly like the stump figured by Professor Fernald which so irresistably compels in us the conception of a lofty tree, a conception, which, to a botanist, is rendered still more compelling by the presence, in the neighborhood of the stumps, of a type of vegetation found only in forests. I regret that a photograph I took of one of these trees that had been partly cleared of branches proved to be one of the mysterious failures which happen at times to all except super-human photographers, but I am able to give the dimensions of this tree, which, it seems to me, thoroughly sustains my contention. The tree was a black spruce with a trunk forty-seven inches in circumference one foot from the ground. Its diameter was therefore about one foot, two and a half inches. This size of the trunk was maintained nearly to the highest branch which went off at right angles thirty-two inches from the ground. From the center to the tip of the branches on all sides was nine feet making a diameter for the whole tree of eighteen feet. It is true that many of the clumps of evergreen bushes are made up of a number of small trunks, but it is also true as I found that trunks of the size just described were not uncommon. In places the trunks are four or even five feet high.

When the trees are continuous over a considerable area they form an almost impassible barrier. Many times, beguiled by a favorable opening, I determined to disregard the difficulties and pass through a hundred yards or so to an open land beyond when I found my progress so barred after a hard struggle of a few yards, that it seemed an economy of both time and effort to go even a mile around, rather than to attempt the straight and extremely narrow course. Where the trees are only a foot or two high, one can walk on their tops, but this is out of the question in trees four or five feet high. Perhaps one could have managed it with modified snow shoes.

To delve beneath these ancient trees, — for my former studies of tree rings in various places on the Labrador Coast assures me that many of these trees must be much over a hundred years old and may in some cases date back even to Cartier — is a difficult task, but one finds here a habitat in which forest plants are surely at home.

BOSTON, MASSACHUSETTS.